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10/660,952	09/12/2003	Thomas H. James	PD-202107	7018

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THE DIRECTV GROUP, INC.
PATENT DOCKET ADMINISTRATION
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EL SEGUNDO, CA 90245

EXAMINER

FAULK, DEVONA E

ART UNIT	PAPER NUMBER
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2614

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/660,952

Applicant(s)

JAMES ET AL.

Examiner

DEVONA E. FAULK

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-8,10,11,13-17 and 19-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,4-8,10,11,13-17 and 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/12/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Remarks

1. The applicant amended the claims to overcome the 112 second rejection set forth in the previous office action.
2. With the amendment providing clarity and upon further search, the examiner has determined that the claims are not in allowable form. The examiner did contact the attorney to try and work out an examiner's amendment but an agreement was not reached.
3. Claims 3,9,12,18,21 and 27 are cancelled.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1,8,10,17,19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779).

Regarding claim 1, McDowell discloses a method of automatic measurement of audio presence and level by direct processing of a data stream representing an audio signal, comprising:

- (a) extracting sub-band data from the data stream (column 3, lines 24-28; column 10, lines 35-45; implicit) ;

(b) dequantizing and denormalizing the extracted sub-band data (step 126 Figure 9; column 11, lines 6-11);

c) measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 130 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and

(d) comparing the measured audio level against at least one threshold (step 136 Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm as determined by the comparing step (d) . Friedman discloses a means for triggering an alarm when the threshold is exceeded (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

The concept of an alarm being generated based on the loss of a signal is well known in the art as taught by Petrillo (column 4, lines 16-25). It would have been

obvious to try to modify McDowell as modified so that the alarm is generated based on the loss of a signal with a reasonable expectation of success.

Regarding claim 8, McDowell as modified discloses threshold the audio level (See McDowell,; step 136 Figure 9; column 12, lines 3-8).

Regarding claim 10, McDowell discloses an apparatus automatic measurement of audio presence and level by direct processing of a data stream representing an audio signal DTS, digital theater system, see title of invention; column 4, lines 50-67; columns 9-12), comprising:

(a) means for extracting sub-band data from the data stream (column 3, lines 24-28; column 10, lines 35-45; means is implicit) ;

(b) means for dequantizing and denormalizing the extracted sub-band data (step 126, Figure 9; column 11, lines 6-11);

c) means for measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 130 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and

(d) means for comparing the measured audio level against at least one threshold (step 136 Figure 9; column 12, lines 3-8).

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McDowell fails to disclose means for triggering an alarm as determined by the means for comparing (d). Friedman discloses a means for triggering an alarm as determined by a comparing step (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

The concept of an alarm being generated based on the loss of a signal is well known in the art as taught by Petrillo (column 4, lines 16-25). It would have been obvious to try to modify McDowell as modified so that the alarm is generated based on the loss of a signal with a reasonable expectation of success.

All elements of claim 10 are comprehended by McDowell as modified (See McDowell as applied above to the rejection of claim 1). McDowell discloses a system and method, the system reading on apparatus (DTS, digital theater system, see title of invention; column 4, lines 50-67; columns 9-12)

Regarding claim 17, McDowell as modified discloses threshold the audio level (See McDowell; step 136 Figure 9; column 12, lines 3-8).

Regarding claim 19, McDowell discloses a method and of automatic measurement of audio presence and level by direct processing of a data stream representing an audio signal, comprising:

- (a) extracting sub-band data from the data stream (column 3, lines 24-28; implicit) ;
- (b) dequantizing and denormalizing the extracted sub-band data (step 126 Figure 9; column 11, lines 6-11);
- c) measuring an audio level for the dequantized and denormalized sub-band data without reconstructing the audio signal using channel characteristics (step 30 Figure 9; column 11, lines 58-62; characteristic is defined as a distinguishing feature, quality or property. The examiner asserts that the sub-band data reads on channel characteristics since the sub-band data is implicitly unique to its input signal); and
- (d) comparing the measured audio level against at least one threshold (step 136 Figure 9; column 12, lines 3-8).

McDowell fails to disclose means for triggering an alarm determined by the comparing step of (d). Friedman discloses a means for triggering an alarm determined by a comparing step (column 10, line 65-column 11, line 7; specifically Friedman teaches of an alarm that is triggered when a modulated audio tone is detected as exceeding a preset threshold). It would have been obvious to modify McDowell as modified to include a means for triggering an alarm when the threshold is exceeded in order to provide an audible indication to the user to alert the user of a possible problem.

McDowell as modified fails to disclose wherein the thresholds are set to generate the alarm based on loss of the audio signal or when an average level of the audio signal is too high or too low.

The concept of an alarm being generated based on the loss of a signal is well known in the art as taught by Petrillo (column 4, lines 16-25). It would have been obvious to try to modify McDowell as modified so that the alarm is generated based on the loss of a signal with a reasonable expectation of success.

McDowell fails to disclose computer readable medium comprising a program storage device embodying executable instructions. The examiner takes official notice that a computer storage medium embodied with a program having executable instructions was known in the art. It would have been obvious to modify McDowell as modified by having an article of manufacture that included a program storage device embodying executable instructions to provide more efficient processing and so that the method of automatic measurement could be applied to various apparatuses.

Regarding claim 26, McDowell as modified discloses threshold the audio level (See McDowell, step 136 Figure 9; column 12, lines 3-8).

7. Claims 2, 11 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Fiocca (US 5,625,743).

Regarding claim 2, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually

irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6, lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determine a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

Regarding claim 11, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6, lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determine a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

Regarding claim 20, McDowell as modified discloses using psychoacoustic measurements and implicitly a psychoacoustic model to determine perceptually irrelevant information according to human sensitivity (column 11, lines 25-46).

McDowell as modified fails to disclose using a psychoacoustic model to determine a

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perceived level of the measured audio signal. Fiocca discloses using a psychoacoustic model to determine a perceived level of the measured audio signal according to human sensitivity (column 6, lines 57-67). It would have been obvious to modify McDowell so that the psychoacoustic model is used to determine a perceived level of the measured audio signal according to human sensitivity so that cut out unnecessary data in an audio signal thereby reducing the computational load on the processor.

8. Claims 4,5,13,14,22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Kallergis (US 4,934,483).

Regarding claim 4, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 5, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

Regarding claim 13, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 14, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

Regarding claim 22, McDowell as modified fails to disclose weighting an instantaneous level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the instantaneous level to give it more influence in the final output.

Regarding claim 23, McDowell as modified fails to disclose weighting an overall level. Kallergis teaches of weighting an overall sound pressure level (column 2, lines 43-45). Weighting is known in the art and can be applied to any set of data, including sound data. It would have been obvious to modify McDowell as modified to include weighting of the overall level to give it more influence in the final output.

9. Claims 7,16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Smith (US 2002/0173864).

Regarding claim 7, McDowell as modified discloses processing an audio level over time. McDowell as modified fails to disclose averaging the audio level over time. Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025; page 3, paragraph 0029 and 0037). It would have been obvious to modify McDowell as modified to include averaging the audio level over time in order to provide improved automatic volume control.

Regarding claim 16, McDowell as modified discloses processing an audio level over time. McDowell as modified fails to disclose averaging the audio level over time. Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025; page 3, paragraph 0029 and 0037). It would have been obvious to modify McDowell as modified to include averaging the audio level over time in order to provide improved automatic volume control.

Regarding claim 25, McDowell as modified discloses processing an audio level over time. McDowell as modified fails to disclose averaging the audio level over time. Smith discloses averaging an audio level over time (abstract; page 2, paragraph 0025; page 3, paragraph 0029 and 0037). It would have been obvious to modify McDowell as modified to include averaging the audio level over time in order to provide improved automatic volume control.

6. Claims 6,15 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDowell (US 6,931,370) in view of Friedman (US 5,337,041) in further view of Petrillo (US 6,429,779) in further view of Pai et al. (6,801,886).

Regarding claim 6, McDowell as modified discloses sub-band data. McDowell as modified fails to disclose that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time. Pai discloses sub-band data that represents the audio signal's strength in a frequency band (column 8, lines 33-35). It would have been obvious to modify McDowell as modified so that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time for the benefit of providing refined audio data.

Regarding claim 15, McDowell as modified discloses sub-band data. McDowell as modified fails to disclose that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time. Pai discloses sub-band data that represents the audio signal's strength in a frequency band (column 8, lines 33-35). It would have been obvious to modify McDowell as modified so that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time for the benefit of providing refined audio data.

Regarding claim 24, McDowell as modified discloses sub-band data. McDowell as modified fails to disclose that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time.

Pai discloses sub-band data that represents the audio signal's strength in a frequency band (column 8, lines 33-35). It would have been obvious to modify McDowell as modified so that the sub-band data represents the audio signal's strength in a frequency band represented by a sub-band at a particular point in time for the benefit of providing refined audio data.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEVONA E. FAULK whose telephone number is (571)272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Devona E. Faulk/
Primary Examiner, Art Unit 2614